



3737

Docket No. END-0810

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

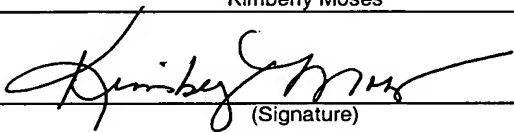
Applicants : Jeffrey D. Messerly
Serial No. : 10/047,601
Filed : January 14, 2002
Title : **Blades with Functional Balance Asymmetries for Use with**
Ultrasonic Surgical Instruments
Art Unit : 3737
Examiner : Not Yet Assigned

3/A
5-28

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PRELIMINARY AMENDMENT

Honorable Commissioner of Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In the Claims:

Please cancel all claims pending, which are 1-18 and replace with the following:

19. An ultrasonic surgical instrument comprising:
an ultrasonic transmission member having a proximal end and a distal end;
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an ultrasonically actuated blade attached to the distal end of the transmission member, wherein the blade comprises:

- a distal end;
- a proximal end attached to the transmission member at a longitudinal vibratory node point;
- a treatment portion including at least one functional asymmetry defining a plane of asymmetry and having an ultrasonically actuated motion in substantially a single plane; and
- a clamp member supported adjacent to the blade and having an open position in which at least a portion of the clamp member is spaced from the blade and a closed position in which the clamp member is adjacent to the blade and that the motion from the closed position to the open position occurs in a plane substantially perpendicular to the plane of motion of the blade.

20. The ultrasonic surgical instrument of claim 19, wherein the blade lies in a single plane perpendicular to the plane of asymmetry.

21. The ultrasonic surgical instrument of claim 19, wherein the treatment portion further comprises a balance asymmetry, wherein the balance asymmetry is positioned to counter torque created at the proximal end of the blade by the functional asymmetry.

22. The ultrasonic surgical instrument of claim 21, wherein the balance asymmetry is positioned such that transverse vibrations in at least one axis at the distal end of the blade are substantially equal to zero.

23. The ultrasonic surgical instrument of claim 21, wherein the balance asymmetry extends from the distal end of the blade to a point within the treatment portion.

24. The ultrasonic surgical instrument of claim 21, wherein the balance asymmetry extends from the distal end of the blade to a point proximal to the treatment portion.

24. The ultrasonic surgical instrument of claim 19, wherein the clamp member further comprises a tissue pad having a tissue contacting surface.

25. The ultrasonic surgical instrument of claim 24, wherein the tissue pad comprises grooves on the tissue contacting surface in a substantial perpendicular relationship with the functional asymmetry.

26. An ultrasonic surgical instrument comprising a ultrasonic waveguide having a proximal end and a distal end, wherein the waveguide comprises:

a balanced ultrasonically actuated blade positioned at the distal end of the waveguide and having an ultrasonically actuated motion in substantially a single plane, wherein the blade comprises:

a distal end;

a proximal end;

61 a curved treatment portion comprising a balance portion including at least one balance asymmetry, wherein the balance asymmetry is positioned to counter torque created by the curved treatment portion; and

a clamp member supported adjacent to the blade and having an open position in which at least a portion of the clamp member is spaced from the blade and a closed position in which the clamp member is adjacent to the blade and that the motion from the closed position to the open position occurs in a plane substantially perpendicular to the plane of motion of the blade.

27. An ultrasonic surgical instrument comprising:

a tubular sheath having a diameter, proximal end and a distal end;

an ultrasonic transmission member having a proximal end and a distal end positioned within the tubular sheath;

an ultrasonically actuated blade attached to the distal end of the transmission member and extending distally of the distal end of the tubular sheath, wherein the blade comprises:

a distal end;

a proximal end attached to the transmission member at a longitudinal vibratory node point;

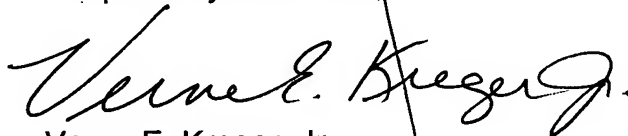
a treatment portion including at least one functional asymmetry defining a plane of asymmetry and having an ultrasonically actuated motion in substantially a single plane; and

a clamp member configured to subscribe an arc larger than the diameter of the tubular shaft and supported adjacent to the blade and having an open position in which at least a portion of the clamp member is spaced from the blade and a closed position in which the clamp member is adjacent to the blade and that the motion from the closed position to the open position occurs in a plane substantially perpendicular to the plane of motion of the blade.

28. The ultrasonic surgical instrument of claim 27 further comprising a rotatable member operatively associated with the transmission member, the clamp member and the blade, the rotatable member being rotatable to cause corresponding rotation of the clamp member and the blade about a longitudinal axis of the instrument.

29. An ultrasonic surgical instrument of claim 27 further comprising a seal member positioned on the transmission member to dampen out unwanted torque generated by the functional asymmetry.

Respectfully submitted,



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